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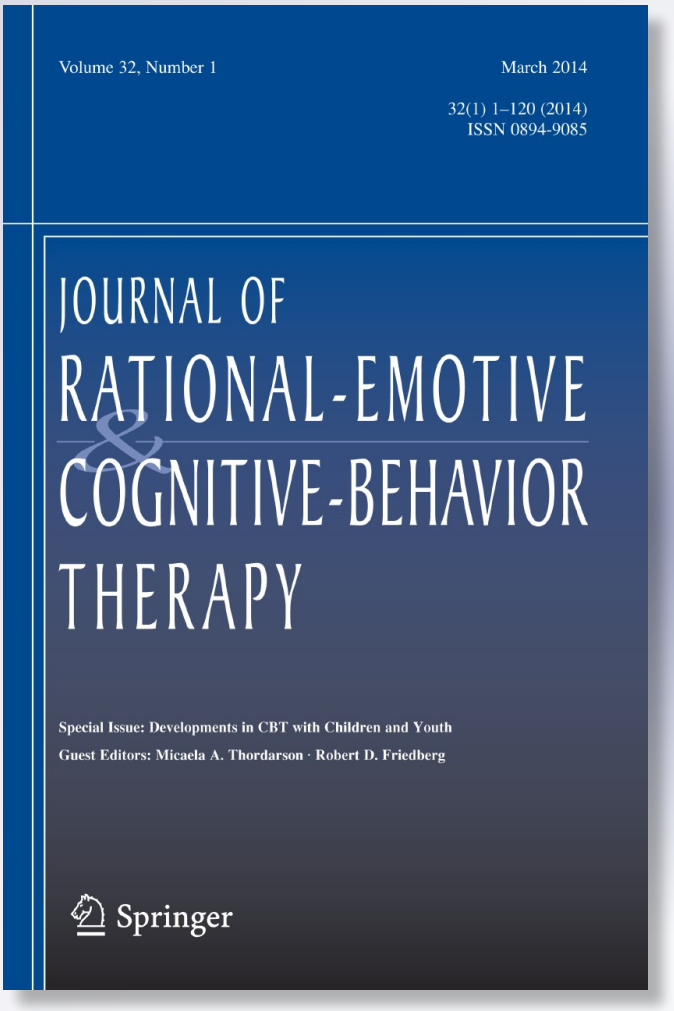

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Using a CBT Approach to Teach Social Skills to Adolescents with Autism Spectrum Disorder and Other Social Challenges: The PEERS® Method

Elizabeth A. Laugeson · Mi N. Park

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Abstract Deficits in social functioning are one of the hallmark features of autism spectrum disorder (ASD), yet very few evidence-based social skills programs exist for adolescents with ASD and other social challenges. The purpose of this paper is to provide an overview of one of the only empirically supported social skills programs for youth with ASD: *The Program for the Education and Enrichment of Relational Skills* (*PEERS®*). Developed at the UCLA Semel Institute for Neuroscience and Human Behavior, PEERS® utilizes the principles of cognitive behavior therapy (CBT) to improve social functioning for youth with ASD and other social difficulties. One of the only empirically-supported social skills programs to disseminate published treatment manuals for mental health professionals and educators, the PEERS® approach applies CBT methods of instruction including: didactic lessons (psychoeducation), role-play demonstrations, cognitive strategies, behavioral rehearsal exercises, performance feedback, homework assignments and review, and parent involvement within a small group treatment format. Results from four randomized controlled trials and one quasi-experimental study reveal significant improvements in overt social skills, frequency of peer interactions, and social responsiveness following this treatment protocol.

Keywords PEERS · Social skills training · Adolescents · Teens · Autism spectrum disorder · Cognitive behavior therapy

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Social dysfunction is a hallmark feature of autism spectrum disorder (ASD) that significantly affects individuals with ASD regardless of cognitive or language functioning (Carter et al. 2005). Poor social functioning is persistent and pervasive throughout development and has even been proposed to be the most defining challenge for individuals with ASD (Laushey and Heflin 2000). Social difficulties are apparent in early childhood and do not appear to improve as a result of maturation or development alone. In fact, social challenges characteristic of ASD are likely to become even more profound during adolescence as social contexts increase in complexity and pose higher social expectations (White et al. 2007).

Adolescence may be a particularly difficult developmental period as youth with ASD may have greater motivation or desire to engage with peers but also have greater awareness of their social disability (Tantam 2003). Consequences of poor social skills are well documented in the literature and often manifest in the form of peer rejection and/or victimization, poor social support, lack of satisfying friendships, experiences of loneliness and isolation, academic and occupational difficulty, and the development of anxiety and mood disturbances (Bauminger and Kasari 2000; Capps et al. 1995; Chamberlain et al. 2007; Humphrey and Symes 2010; Rao et al. 2008). Thus, the need for effective social skills training programs during adolescence is of great importance for this highly vulnerable population.

Social skills intervention programs are growing in availability and popularity for adolescents with ASD, yet research suggests these programs are not particularly effective in improving social outcomes (Rao et al. 2008; Reichow and Volkmar 2010; Rogers 2000; White et al. 2007). Among those programs that do show promise, limited generalization and durability of treatment gains have also been found to be problematic (DeRosier et al. 2011; Rogers 2000; White et al. 2007).

In their review of evidence-based social skills interventions, Reichow and Volkmar (2010) identified several empirically supported methods of treatment delivery that may encourage more successful, meaningful social outcomes for individuals with ASD. Treatment methods based upon applied behavior analysis, naturalistic techniques, parent and family involvement, peer training, group treatment, visual supports, and video modeling were found to be effective treatment strategies for teaching social skills. Effective intervention strategies were typically implemented within the context of one of three broad treatment approaches: adult-mediated approaches facilitated by a clinician or teacher, peer-mediated approaches that incorporate peer mentors or models, and a combination of adult- and peer-mediated approaches (Reichow and Volkmar 2010).

In addition to these methods, social skills intervention programs based on cognitive behavior therapy (CBT) are a promising treatment modality for ameliorating social deficits in youth with ASD, while addressing many of the concerns of existing social skills programs. Emerging research shows that CBT-based social skills treatments are feasible, accessible, and beneficial for youth with ASD when specific adaptations are introduced (Bauminger 2007a, b; Koning et al. 2013; Laugeson et al. 2009, 2012; Lopata et al. 2006; Reaven et al. 2009; Sze and Wood 2007; White et al. 2010). These critical adaptations include increasing the structure and predictability of therapy sessions, incorporating visual supports, using

explicit verbal cues and feedback, drawing explicit attention to important social cues, including parents in treatment, and providing multiple opportunities for rehearsal of skills (Beebe and Risi 2003; White et al. 2010).

One such approach that utilizes the teaching methods traditional to CBT is the *Program for the Education and Enrichment of Relationship Skills (PEERS®).* Developed at the University of California, Los Angeles (UCLA), this evidence-based social skills program is focused on teaching the skills necessary for making and keeping friends and managing peer conflict and peer rejection. One of the only empirically-supported social skills programs to disseminate published treatment manuals for mental health professionals and educators (Laugeson 2014; Laugeson and Frankel 2010), the PEERS® method is known to be effective in improving the social outcomes of adolescents with ASD through multiple clinical trials (Laugeson et al. 2009, 2012; Schohl et al. 2013; Van Hecke et al. 2013), and is used extensively in clinical settings with adolescents and adults with other social challenges such as attention-deficit/hyperactivity disorder (ADHD), anxiety, depression, fetal alcohol spectrum disorder (FASD), and other developmental disabilities (Laugeson 2013).

Utilizing the rigorous empirical method of randomized controlled trials, PEERS® is one of only five evidence-based social skills interventions demonstrating efficacy in improving the social functioning of children and adolescents with ASD (Reichow et al. 2013). Moreover, PEERS® is the only evidence-based social skills treatment effective in improving social competence for both teens and young adults with ASD (Gantman et al. 2012). Utilizing the principles of CBT, PEERS® applies the teaching methods of didactic instruction (psychoeducation), role-play demonstration, cognitive strategies, behavioral rehearsal, performance feedback, homework assignment and review, and parent involvement within a small group treatment format (Laugeson 2014; Laugeson and Frankel 2010). The general effectiveness of the PEERS® method might be credited to the use of evidence-based methods of treatment delivery, borrowed from the CBT approach, in combination with the inclusion of parents in treatment, who ensure the generalizability and durability of treatment gains in the months and years following intervention (Mandelberg et al. 2014).

CBT Strategies Used in PEERS®

The following evidence-based CBT strategies are employed in the PEERS® approach to teach social skills to adolescents with ASD and other social challenges. These core strategies are considered fundamental to the PEERS® method and are thought to be instrumental toward improved treatment outcomes.

Group Treatment

While CBT group treatment modalities are considered to be at least as effective as individual treatment modalities in working with the general youth population (Rapee et al. 2000), the use of group treatment is critical in the teaching of social

skills using the PEERS® method. Group instruction is an intuitive and highly effective method to teach social skills as it allows for the instruction and practice of newly learned social skills in an interactive manner that approximates a relatively naturalistic setting with peers (Barry et al. 2003; Kroeger et al. 2007).

Small Group Format

Time-limited small group treatment is a fundamental element of the PEERS® method in both outpatient clinical settings (Laugeson and Frankel 2010), as well as school-based educational settings (Laugeson 2014). The ideal size for group treatment is typically 8–10 adolescent group members, which allows for possible attrition and unexpected absences, while maintaining group cohesion. In educational settings in which the program is taught as part of a class, group size has included up to as many as 16 students with positive treatment benefits (Laugeson 2014). The treatment impact of classes larger than 16 is unknown, and thus, not recommended.

Didactic Instruction (Psychoeducation)

Didactic instruction, also referred to as psychoeducation, is characterized by the therapist taking an active role of an educator. The objective is to teach skills and foster adolescents' awareness and evaluation of their thoughts, feelings, and behaviors (Blagys and Hilsenroth 2002; Kendall 1993). The PEERS® method uses psychoeducation through the use of weekly or daily didactic lessons teaching concrete rules and steps of social behavior.

Concrete Rules and Steps of Social Behavior

The PEERS® approach incorporates concrete rules and steps of social behavior, developed from research identifying *ecologically valid social skills* used by socially successful teens. A good example of this involves *peer entry*, which is the process by which people enter conversations. What are most adolescents told to do when entering conversations and meeting new people? They are often told to go up and introduce themselves or go up and say, "*Hi.*" Yet, this advice is not ecologically valid. Instead, research suggests that teens typically meet one another by entering group conversations focused on common interests. They do this by first discreetly watching and listening to the conversation. This is done unobtrusively, usually using a prop like a mobile phone or gaming device so they do not appear to be eavesdropping. While listening, they are identifying the topic and deciding if they have anything to contribute to the conversation through common interests. Once they have decided to join, they wait for a pause in the conversation, so as not to interrupt the conversation. Next, they move a little closer (no more than an arm's length away) in order to show interest in the group. Then they join by making a comment, asking a question, or giving a compliment related to the topic (Laugeson and Frankel 2010). Using the CBT strategy of didactic instruction with concrete rules and steps of ecologically valid social skills, peer entry is taught by breaking

down these complex elements into easy to understand steps: (1) Watch and listen, (2) identify the topic, (3) wait for a pause in the conversation, (4) move closer, and (5) join by saying something on topic.

Socratic Questioning

In order for adolescents to understand and encode new information, the use of Socratic questioning (rather than lecturing) is critical. Socratic questioning involves a systematic line of questioning that guides reasoning. This commonly used CBT strategy is particularly useful when working with adolescents. Its interactive and collaborative style is likely to reduce avoidance and confrontation by adolescents, thereby enhancing treatment engagement and attention (Overholser 1993).

Using the previous peer entry example, the steps for entering group conversations are presented using the Socratic method by saying, "*The first step for entering a conversation is to watch and listen to the conversation. What do you think we are watching and listening for?*" The answer of course is we are listening for the topic. This response is followed up with the Socratic question, "*Why would it be important to listen for the topic?*" The reason is simply that if we are off-topic the group is less likely to want to talk to us. By engaging adolescents in the process of generating the rules and steps of social behavior (or at minimum the rationale for rules and steps), we increase the likelihood that teens will understand and remember what they are being taught. Moreover, through Socratic questioning, by having teens and their peers generate the rules and steps of social behavior (rather than the instructor lecturing), they are more likely to believe what they are learning.

Role-Play Demonstrations

Role-play demonstrations are common techniques used in CBT and consist of the therapist modeling appropriate skill use. Modeling and role-play demonstrations are particularly helpful in simplifying abstract social skills into more concrete and achievable rules and steps (Cappadocia and Weiss 2011; Moree and Thompson 2010). Providing concrete rules and steps of social behavior is only the first step in social understanding. Actually witnessing firsthand what these rules and steps should look like (and in some cases what they should not look like) is the next piece of the puzzle.

Bad Role-Play Demonstrations

Just as it is important to demonstrate appropriate social behavior, it is also important to demonstrate inappropriate behavior. Bridging on the previous peer entry example, after presenting all of the steps for entering a group conversation, the instructor might first demonstrate what not to do by conducting a *bad role-play* of peer entry. She might introduce the demonstration by saying, "*Watch this role-play and think about what I'm doing wrong*." The instructor would then demonstrate barging into a conversation in which she fails to watch and listen to the

conversation, does not wait for a pause, and enters by being off-topic. After a few moments of unsuccessful peer entry she might call a "*time out*" and ask the teens to identify what she did wrong and which steps she failed to follow. This question affords the opportunity for *repetition of instruction (*essentially repeating the concrete steps for peer entry in this case), which is highly valuable in learning any new skill.

Good Role-Play Demonstrations

Acting out appropriate social behavior is also a critical piece of the social skills puzzle. In the case of conversational peer entry, the instructor would conduct a good role-play demonstration by saying, "*Watch this role-play and think about what I'm doing right*." She would then demonstrate following the steps of watching and listening to the conversation, identifying the topic, waiting for a pause in the conversation, moving closer, and joining the conversation by saying something on topic. After a few moments of successful peer entry she might call a "*time out*" and ask the teens to identify what she did right and which steps she followed. Again, this question affords the opportunity for *repetition of instruction*, and the role-play itself helps to solidify the comprehension of the newly learned steps through *social observational learning*.

Cognitive Strategies

Research suggests that social skills intervention programs utilizing CBT techniques improve social cognition and social perception skills in high functioning youth with ASD (Bauminger 2007a, b). Key cognitive skills to teach adolescents with ASD include *social perception* (i.e., how to accurately process information), *social cognition* (i.e., how to take on the perspectives of other), and *social problem solving* (i.e., how to determine the social appropriateness of a behavior and how to act accordingly) (Bauminger 2007a; White et al. 2007).

Reading Social Cues (Social Perception)

Research suggests that role-play demonstrations in conjunction with cognitive strategies enhance the perspective taking skills of youth with ASD by allowing them to explicitly verbalize and interpret the nonverbal and verbal social cues that they observe during the role-plays (Koning et al. 2013). Knowing that teens with ASD have difficulty reading social cues, the PEERS® method utilizes cognitive strategies to interpret the social cues exhibited during role-play demonstrations, as well as during homework reviews. Using the peer entry example, each role-play demonstration of entering a group conversation, whether good or bad, will be followed by *social perception questions*. These questions include, "*Did it seem like the group wanted to talk to me?*" and "*How could you tell?*" During the course of treatment, adolescents are taught to look for three concrete behaviors and ask themselves three concrete questions when assessing social acceptance in conversations. Those three

behaviors include: verbal cues ("*Are they talking to me?*"), eye contact ("*Are they looking at me?*"), and body language ("*Are they facing me?*"). Thus, when adolescents are asked to consider the *social perception questions*, "*Did it seem like the group wanted to talk to me?*" and "*How could you tell?*" they are better equipped to read the social cues. Using the previous example, if the group wanted to talk to the instructor (*good role-play demonstration*), the group would be talking to her, looking at her, and facing her. If the group did not want to talk to the instructor (*bad role-play demonstration*), the group would not be talking to her, would not be looking at her, and would be faced away. To generalize the reading of social cues to other settings, *social perception questions* are also used in reviews of homework assignments in which adolescents assess their own peer acceptance by considering the verbal cues, eye contact, and body language of their peers.

Perspective Taking Questions (Social Cognition)

In order to improve the ability to take on the perspectives of others, also referred to as social cognition or theory of mind, *perspective taking questions* are also utilized in the PEERS® method. *Perspective taking questions* are presented after every role-play demonstration as they are thought to be critical to the assessment of social situations focused on developing and maintaining meaningful relationships, which is the goal of PEERS®. Using the peer entry example, each role-play demonstration of entering a group conversation (good and bad) will be followed with three *perspective taking questions*: "*What do you think that was like for the other people?*" "*What do you think they thought of me?*" and "*Are they going to want to talk to me again?*" In addition to asking the adolescent group member these three questions, the instructor will follow-up by asking the behavioral coaches participating in the role-play demonstration the same three questions: "*What was that like for you?*" "*What did you think of me?*" and "*Are you going to want to talk to me again?*" By repeatedly and predictably asking the same three *perspective taking questions* following every role-play, we develop a routine measure on which to assess social situations both inside and outside of the treatment setting.

Social Problem Solving

Another critical cognitive strategy is determining the social appropriateness of a behavior and deciding how to act accordingly (Bauminger 2007a). The PEERS® method addresses social problems by first considering the causes of these problems and then contemplating what might be done differently next time. Using the peer entry example, adolescent group members are asked to brainstorm different reasons why the instructor may not have been accepted into the group conversation, and what she could do differently next time. For example, if the reason she was rejected was because she did not enter appropriately, it will be critical that she follow the steps for peer entry next time. Alternatively, if the reason she was rejected was because she had a bad reputation with the group, it will be important that she choose a different group next time. Having adolescents generate reasons for problematic

social scenarios in combination with concrete solutions for how to behave differently is one effective way of teaching social problem solving skills.

Behavioral Rehearsal

Behavioral rehearsal, also known as *participant modeling*, is another common CBT technique utilized in the PEERS® method. Behavioral rehearsal exercises involve adolescents actively practicing newly learned skills in the treatment setting while correcting behavioral errors and cognitive distortions (Blagys and Hilsenroth 2002). One benefit of facilitating social skills treatment within a small group format is that behavioral rehearsal exercises may be conducted with other group members. Practicing skills with peers may increase the likelihood that the skills will generalize to real world settings (White et al. 2010). Behavioral rehearsals that occur in group settings also permit repeated practice and consolidation of newly learned skills in a controlled, highly supportive environment (Reaven et al. 2009).

Repeated Behavioral Rehearsal Exercises

The opportunity to rehearse newly learned skills multiple times is a core feature of the PEERS® method. It is not simply enough for adolescents to learn the rules and steps of social behavior and observe how they work, teens must also have opportunities to practice in a safe and protected environment before using these skills with their peers in nonclinical settings. Continuing with the previous example, the behavioral rehearsal exercise for peer entry involves teens entering conversations between other adolescent group members following the steps outlined in the didactic lesson. Prior to entry attempts, the practicing teens are coached by a member of the clinical team and asked to identify the steps for joining group conversations. Once the teen has identified the main steps to watch/listen, wait for a pause, move closer, and say something on topic, he or she is encouraged to practice using the steps with group members already engaged in conversation.

Performance Feedback

Communication about expected behavior versus observed behavior, known as performance feedback, must accompany the adolescent's behavioral rehearsal in order to insure continued progress and social success. Adolescents with ASD respond most effectively and benefit optimally when performance feedback is presented immediately after implementing the skill and when feedback is provided in a direct, concrete, and specific manner (Anderson and Morris 2006; White et al. 2010). Using the peer entry example, adolescents in PEERS® practice entering conversations with other group members while receiving performance feedback from the treatment team. This feedback is given during or after the peer entry attempt is made. For example, adolescents with a tendency toward hyperactivity and impulsivity are more likely to barge into conversations during behavioral rehearsal. In this case, the behavioral coach might call a "*time out*" and say, "*We want to be careful not to interrupt conversations. Which steps should we follow to make sure we're not interrupting?*"

The teen (or his or her peers) will respond that they need to watch/listen to the conversation and wait for a pause before entering. The practicing teen will then be given the opportunity to practice this skill again using these additional steps. By providing performance feedback in the moment through coaching, we utilize teachable moments in which we might shape more appropriate social behavior.

Homework Assignments and Homework Review

Homework assignments and homework review are critical components of CBT (Blagys and Hilsenroth 2002; Hudson and Kendall 2002). Repeated practice through homework assignments encourages mastery of skills, allows the therapist to determine the extent to which the adolescent has grasp of the skill, and fosters generalization and maintenance of skills outside of the treatment setting to naturalistic social settings (Hudson and Kendall 2002; Koning et al. 2013). Moreover, research suggests that completion of homework assignments is significantly correlated with greater treatment outcomes (Kazantzis et al. 2000). The use of homework assignments and homework review is another fundamental aspect of the PEERS® approach, promoting generalization of skills and individualization of treatment.

Homework Assignments

The use of homework assignments insures that adolescents practice and use newly leanred skills in nonclinical settings. Using the peer entry example, the obvious homework assignment is to practice joining a group conversation with peers outside of the treatment setting following the steps outlined in the lesson. Completion of this assignment is then discussed during homework review in the following week.

Homework Review

Homework review is an extremely important aspect of the PEERS® approach. It is insufficient to merely give an assignment to practice a given skill; progress regarding the rehearsal of that skill must be assessed, and use of the skill even adjusted in some cases. Following up with adolescents on the execution of these assignments during homework review allows the instructor to individualize the treatment for each adolescent, continuing with what works, and adjusting what does not. Using the peer entry example, imagine a teen reports on his peer entry assignment only to indicate that he was rejected by his peers. Although rejection during conversational entry is not uncommon, it is still important to consider the reason for this rejection. Imagine that through the course of homework review it is discovered that the teen has a bad reputation among his peers at school. In such case, it will be difficult for the teen to find accepting teens in his school until his reputation has died down (a strategy also taught in PEERS® but requiring considerable time). Meanwhile, we do not want the teen to be isolated and avoid peer entry entirely. Instead, we will individualize the treatment and recommend that the teen find a source of friends outside of school (with the help of his parents) where his reputation is unknown. This is often accomplished through

involvement in community-based extracurricular activities. In this case, we are essentially modifying and shaping a given social behavior to meet the needs of the individual adolescent.

Parent Involvement

Parent involvement in treatment has become increasingly popular for those with ASD, although the inclusion of parents in social skills training is still quite rare (Rao et al. 2008; Reichow and Volkmar 2010; Rogers 2000; White et al. 2007). Yet, parents have the capacity to help their adolescents with behavioral rehearsals in natural settings while providing performance feedback, which is likely to promote better durability of generalized treatment gains (Anderson and Morris 2006; Hudson and Kendall 2002; Moree and Thompson 2010; White et al. 2010).

The active inclusion of parents in treatment is perhaps the most unique and defining characteristic of the PEERS® method. In weekly outpatient clinical groups, concurrent but separate parent groups are conducted in tandem with teen sessions as a means of generalizing the skills to nonclinical settings and promoting the maintenance of the skills long after the program has ended (Laugeson and Frankel 2010). Parents are taught to be *social coaches* to their teens, while motivated teens agree to this coaching contract. Only families in which there is a willing parent participant and a teen willing to be coached by this parent are included in the parent-mediated treatment.

To highlight the importance of parent participation in treatment, consider the peer entry example once again. Teens are given the homework assignment to practice the steps for joining group conversations. In order to facilitate social coaching outside of the group, parents are additionally given the assignment to review the steps for peer entry with their teens throughout the week, and when needed, practice following these steps with their teens. Parents are also given the task to make sure their teens practice joining group conversations with peers in the coming week, thereby increasing homework compliance and promoting generalization of skills to natural settings. Parents are taught appropriate strategies for providing performance feedback during teachable moments; thereby further shaping and improving the use of newly learned skills. Inclusion of parents in treatment insures that the skills learned will be practiced and further refined long after the treatment group has come to an end.

Alternatives to Parent Assisted Treatment

Teacher-Facilitation

Although the inclusion of parents in treatment is considered a trademark feature of the PEERS® method, the reality is that not all parents are able or even willing to participate in treatment. This fact is what led to the development of *The PEERS® Curriculum for School-Based Professionals* (Laugeson 2014), a 16-week manualized social skills program that utilizes teacher-facilitation with daily instruction in the classroom. In this curriculum, teachers replace parents as the primary social

coaches in the school setting. The degree to which parents are included in the program depends on the objectives and resources of the school. At minimum, comprehensive weekly *parent handouts* (found in the published PEERS® school curriculum) should be provided to interested parents who are willing to provide additional coaching in the home and community setting.

Parent Social Coaching Book

Although PEERS® has been translated into at least six languages and is used in over a dozen countries to date, the reality is that not everyone can access this program in their community or school. This reality is what led to the development of a social coaching book intended for parents and their teens (or young adults) interested in learning how to make and keep friends and manage peer rejection and conflict. *The Science of Making Friends* (Laugeson 2013) incorporates the ecologically valid rules and steps of social behavior taught in PEERS® into parent narrative lessons and chapter summaries for teens. A DVD companion and mobile app known as *FriendMaker* provide video modeling of social skills, including *good and bad role-play demonstrations*. Each video is followed by *perspective taking questions* to be discussed between the parent and teen. Chapter exercises follow each skill with suggestions for how to practice the skills and generalize their use in more natural settings, while parent social coaching tips are provided throughout the book. In the absence of parent-assisted treatment, *The Science of Making Friends* offers a nice alternative to PEERS® using techniques fundamental to CBT.

Summary

Social deficits are one of the defining characteristics of ASD, affecting individuals across the spectrum. With adolescence known to be a time of great social change and increased social demand, the need for effective social skills interventions for teens with ASD is paramount in order for these individuals to lead healthy and successful lives. Yet few evidence-based social skills programs exist for adolescents with ASD and other social challenges.

One of the only empirically-supported social skills programs, the PEERS® method utilizes the principles of CBT to improve social functioning for adolescents with ASD and other social difficulties, employing methods of instruction including: (1) group treatment, involving structured teaching in a small group format; (2) didactic lessons, including concrete rules and steps of ecologically valid social skills and Socratic questioning; (3) role-play demonstrations, including good and bad demonstrations; (4) cognitive strategies including social perception questions, perspective taking questions, and social problem solving techniques; (5) behavioral rehearsal exercises; (6) performance feedback through social coaching; (7) homework assignments and homework review; and (8) parent involvement in treatment.

This paper provides an overview of one of the only empirically supported social skills programs for youth with ASD. Results from four randomized controlled trials

and one quasi-experimental study with PEERS® reveal significant improvements in over social skills, frequency of peer interactions, and social responsiveness following treatment, suggesting the use of CBT techniques in teaching social skills to adolescents with ASD and other social challenges is effective and advisable.

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